

WHAT IS CLAIMED IS:

1. Device for layerwise generative production of three-dimensional objects by acting of electromagnetic or particle radiation at respective positions corresponding to the cross-section
5 of the object in the respective layer comprising:

at least two building regions which are separated from each other for objects to be produced;

a radiation source for emitting the electromagnetic or particle radiation,

characterized by

10 a switch device for switching the radiation between the building regions such that one building region is irradiated at a time, wherein the switch device comprises a switchable optical element or a beam switch.

2. Device according to claim 1, characterized in that the building regions are provided in separate process chambers.

15 3. Device according to claim 1, characterized in that optical fibres are connected to the switch device for inputting and outputting of the radiation.

4. Device according to claim 1, characterized by a control device which controls the switch device such that during a process step in one building region which runs without participation of the radiation source, a process step with participation of the radiation source runs
20 in another building region.

5. Device according to claim 1, characterized by a control device for the switch device formed such that during the solidification of a layer in the one building region, other process steps such as application of a layer, loading or unloading take place in another building region.

6. Device according to one of claim 1, characterized in that more than two building regions are provided which are assigned to either separated process chambers and/or partial regions of manifold-chambers.

5 7. Device according to claim 6, characterized in that at least one further switch device switching the radiation between the building regions of a manifold-chamber is provided.

8. Device according to claim 2, characterized in that at least one process chamber is formed hermetically impervious.

9. Device according to claim 2, characterized in that the process chamber comprises a heating or a cooling device.

10 10. Device according to claim 1, characterized in that the radiation source is formed to be a laser.

11. Device according to claim 1, characterized in that the radiation source is formed to be a source for generating a beam of particles of a binder material.

15 12. Method for layerwise generative production of three-dimensional objects by acting of electromagnetic or particle radiation at respective positions corresponding to the cross-section of the object in the respective layer

20 characterized in that during a process step in one building region which runs without participation of the radiation, a process step with participation of the radiation takes place in another building region, wherein the radiation is switched between the building regions by means of a switch device comprising a switchable optical element and/or a beam switch.

13. Method according to claim 12, characterized in that the process step with participation of the radiation is a step of solidifying a layer of a building material by means of the radiation.

25 14. Method according to claim 12, characterized in that the process step without participation of the radiation includes an application of a layer, the removal of a completed object from the building region or acts of preparation for a new building operation.

15. Method according to one of claims 12, wherein the objects are produced in a plurality of process chambers.

16. Method according to claim 15 wherein the quantity of process chambers is divided in two groups wherein in one group of process chambers completed objects are removed from the process chambers and/or process chambers are prepared for a manufacturing operation while in the other group of process chambers in a part of the process chambers an irradiating takes place and concurrently in the other part of the process chambers an operation without participation of the radiation source takes place.

17. Method according to claim 16, wherein, after completion of the preparation for manufacturing in the one group of process chambers, in this group in a part of the process chambers of this group an irradiating takes places and, concurrently, in the other part of the process chambers of this group a process step of preparing of a layer takes place, while in the other group of process chambers completed objects are removed from the process chambers or process chambers are prepared for a manufacturing operation.

18. Method according to claim 12, wherein the input and output of the radiation is performed by means of optical fibres in the switch device.

19. Device according to claim 3, characterized by a control device which controls the switch device such that during a process step in one building region which runs without participation of the radiation source, a process step with participation of the radiation source runs in another building region.

20. Device according to one of claim 4, characterized in that more than two building regions are provided which are assigned to either separated process chambers and/or partial regions of manifold-chambers.